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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,930	12/16/2003	Farzad Samie	GP-303761	5331

7590 08/16/2006

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EXAMINER

LE, DAVID D

ART UNIT	PAPER NUMBER
3681	

DATE MAILED: 08/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,930	SAMIE ET AL.	
	Examiner	Art Unit	
	David D. Le	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the third Office action on the merits of Application No. 10736,930, filed 16 December 2003. Claims 1-20 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 12/16/03

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 July 2006 has been entered.

Specification

4. The use of the trademark MECHANICAL DIOLE™ has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1-11, 13-19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 1:

- Lines 10-12 recite the limitation “a first rotating input clutch operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said first rotating input clutch is slipped for launching the vehicle in first speed”. This claimed limitation appears to be inaccurate because, as disclosed in Figs. 1 and 2, the first rotating input clutch, which is identified as clutch (50), is located **after** the input torque from the input shaft (17) passing through the first planetary gear set (20) of the transmission (14). As shown in Fig. 1, the input shaft (17) is directly connected to the ring gear (24) of the first planetary gear set (20) of the transmission (14) and the input torque from the input shaft is carried into the transmission without or prior to going through clutch (50). Accordingly, the claimed first rotating input clutch (50) does not enable the input shaft (17) to carry torque into the transmission (14).

- Lines 13-15 recite the limitation “a second rotating input clutch operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said second rotating input clutch is slipped for launching the vehicle in reverse”. This claimed limitation also appears to be inaccurate because, as disclosed in Figs. 1 and 2, the second rotating input clutch, which is identified as clutch (54), is located after the input torque from the input shaft (17) passing through the first planetary gear set (20) of the transmission (14). As shown in Fig. 1, the input shaft (17) is directly connected to the ring gear (24) of the first planetary gear set (20) of the transmission (14) and the input torque from the input shaft is carried into the transmission without or prior to going through clutch (54). Accordingly, the claimed second rotating input clutch (54) does not enable the input shaft (17) to carry torque into the transmission (14).

Claim 13:

- Lines 2-4 recite the limitation “a first rotating input clutch operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said first rotating input clutch is slipped for launching the vehicle in first speed”. This claimed limitation appears to be inaccurate because, as disclosed in Figs. 1 and 2, the first rotating input clutch, which is identified as clutch (50), is located after the input torque from the input shaft (17) passing through the first planetary gear set (20) of the transmission (14). As shown in Fig. 1, the input shaft (17) is directly connected to the ring gear (24) of the first

planetary gear set (20) of the transmission (14) and the input torque from the input shaft is carried into the transmission without or prior to going through clutch (50). Accordingly, the claimed first rotating input clutch (50) does not enable the input shaft (17) to carry torque into the transmission (14).

- Lines 5-7 recite the limitation “a second rotating input clutch operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said second rotating input clutch is slipped for launching the vehicle in reverse”. This claimed limitation also appears to be inaccurate because, as disclosed in Figs. 1 and 2, the second rotating input clutch, which is identified as clutch (54), is located after the input torque from the input shaft (17) passing through the first planetary gear set (20) of the transmission (14). As shown in Fig. 1, the input shaft (17) is directly connected to the ring gear (24) of the first planetary gear set (20) of the transmission (14) and the input torque from the input shaft is carried into the transmission without or prior to going through clutch (54). Accordingly, the claimed second rotating input clutch (54) does not enable the input shaft (17) to carry torque into the transmission (14).

Claim 20:

- Lines 10-12 recite the limitation “a first rotating input clutch operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said first rotating input clutch is slipped for launching the

vehicle in first speed”. This claimed limitation appears to be inaccurate because, as disclosed in Figs. 1 and 2, the first rotating input clutch, which is identified as clutch (50), is located after the input torque from the input shaft (17) passing through the first planetary gear set (20) of the transmission (14). As shown in Fig. 1, the input shaft (17) is directly connected to the ring gear (24) of the first planetary gear set (20) of the transmission (14) and the input torque from the input shaft is carried into the transmission without or prior to going through clutch (50). Accordingly, the claimed first rotating input clutch (50) does not enable the input shaft (17) to carry torque into the transmission (14).

- Lines 13-15 recite the limitation “a second rotating input clutch operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said second rotating input clutch is slipped for launching the vehicle in reverse”. This claimed limitation also appears to be inaccurate because, as disclosed in Figs. 1 and 2, the second rotating input clutch, which is identified as clutch (54), is located after the input torque from the input shaft (17) passing through the first planetary gear set (20) of the transmission (14). As shown in Fig. 1, the input shaft (17) is directly connected to the ring gear (24) of the first planetary gear set (20) of the transmission (14) and the input torque from the input shaft is carried into the transmission without or prior to going through clutch (54). Accordingly, the claimed second rotating input clutch (54) does not enable the input shaft (17) to carry torque into the transmission (14).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 4,347,763 to Sakakibara et al.**

Claim 12:

Sakakibara (i.e., Figs. 1-3, column 2, line 4 – column 4, line 12) discloses a vehicle transmission comprising:

- An input shaft (i.e., Fig. 1, element 52);
- An output shaft (i.e., Fig. 1, element 55);
- A plurality of planetary gear sets (i.e., Fig. 1, elements 30 and 40) operatively connected between the input shaft and output shaft, each having a ring gear member, a planet carrier assembly member and a sun gear member (i.e., Fig. 1); and
- A selectable reversible braking one-way clutch (i.e., Fig. 1, element 64; examiner interprets the claimed selectable reversible braking one-way clutch as a one-way clutch that is capable of operating in two opposite directions, wherein when the one-way clutch is selected to operate in a first direction, the one-way clutch is in an overrunning mode, and when the one way clutch is selected to operate in a second direction, opposite to the first direction, the one-way clutch is in a braking

mode) for braking rotation of one of said members of said planetary gear sets when the transmission is in first speed, and disengaged in all other gear states (i.e., column 2, table 1).

9. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,139,463 to Kasuya et al.

Claim 12:

Kasuya (i.e., Figs. 1-3; column 6, line 19 – column 9, line 63) discloses an automatic transmission comprising:

- An input shaft (i.e., Fig. 1, element 11);
- An output shaft (i.e., Fig. 1, element 19);
- A plurality of planetary gear sets (i.e., Fig. 1, elements G and G1) operatively connected between the input shaft and output shaft, each having a ring gear member, a planet carrier assembly member and a sun gear member (i.e., Fig. 1); and
- A selectable reversible braking one-way clutch (i.e., Fig. 1, element F-2; examiner interprets the claimed selectable reversible braking one-way clutch as a one-way clutch that is capable of operating in two opposite directions, wherein when the one-way clutch is selected to operate in a first direction, the one-way clutch is in an overrunning mode, and when the one way clutch is selected to operate in a second direction, opposite to the first direction, the one-way clutch is in a braking

mode) for braking rotation of one of said members of said planetary gear sets when the transmission is in first speed (i.e., Fig. 3).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 1-5, 8, 10, 11, 13-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,139,463 to Kasuya et al. in view of the German document VDI-Berichte 1610 (German'1610).**

Claims 1-5, 8, 10, 11, 13-17, 19 and 20:

Kasuya (i.e., Figs. 1-3; column 6, line 19 – column 9, line 63) discloses an automatic transmission comprising:

- An input shaft (i.e., Fig. 1, element 11);
- An output shaft (i.e., Fig. 1, element 19);
- A plurality of planetary gear sets (i.e., Fig. 1, elements G and G1) operatively connected between the input shaft and output shaft, each having a ring gear member, a planet carrier assembly member and a sun gear member (i.e., Fig. 1);
- A selectable reversible braking one-way clutch (i.e., Fig. 1, element F-2; examiner interprets the claimed selectable reversible braking one-way clutch as a one-way

clutch that is capable of operating in two opposite directions, wherein when the one-way clutch is selected to operate in a first direction, the one-way clutch is in an overrunning mode, and when the one way clutch is selected to operate in a second direction, opposite to the first direction, the one-way clutch is in a braking mode) for braking rotation of one of said members of said planetary gear sets when the transmission is in first speed (i.e., Fig. 3);

- A first rotating input clutch (i.e., Fig. 1, element C-1) operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said first rotating input clutch is slipped for launching the vehicle in the first speed;
- A second rotating input clutch (i.e., Fig. 1, element C-3) operatively engageable with the input shaft for enabling the input shaft to carry torque into the transmission, wherein said second rotating input clutch is slipped for launch the vehicle in reverse;
- A third clutch (i.e., Fig. 1, element C-2) and a brake (i.e., Fig. 1, element B-1, B-2 or B-3), and wherein said first, second and third clutches, said brake and said selectable braking one-way clutch are engageable in combinations of two to provide six forward speed ratios and one reverse speed ratio between the input shaft and the output shaft (i.e., Fig. 3);
- Wherein said first and second rotating input clutches (C-1 and C-3) are operatively engageable with the input shaft (11) through one of said members of said planetary gear sets (i.e. Fig. 1, element R1);

- Wherein said input shaft (11) is operatively connected to a member of one of said planetary gear sets (i.e., Fig. 1, element R1), and said first and second rotating clutches (C-1 and C-3) are operatively connected to said one of said planetary gear sets (i.e., Fig. 1);
- Wherein said input shaft is operatively connected to the ring gear member (i.e., Fig. 1, element R1) of a first of said plurality of planetary gear sets;
- Wherein said first rotating clutch (C-1) is operatively connected between said planet carrier assembly member (C1) of the first planetary gear set;
- Wherein said second rotating input clutch (C-3) is operatively connected between the planetary carrier assembly member of the first planetary gear set (i.e., Fig. 1, element C1) and the sun gear member of a second of said plurality of planetary gear sets (i.e., Fig. 1, element S2);
- Wherein said third clutch (C-2) is operatively connected between the ring gear member (R1) of the first planetary gear set and the planet carrier assembly member of the third planetary gear set (i.e., Fig. 1, element C3);
- Wherein the brake (B-2) is operatively connected between a transmission housing (i.e., Fig. 1, element 10) and the sun gear member (S2) of the second planetary gear set;
- Wherein said selectable braking one-way clutch (F-2) is connected between the planetary carrier assembly member of a second of said plurality of planetary gear sets, and a transmission housing (i.e., Fig. 1, element C2); and

- Wherein said selectable braking one-way clutch (F-2) is a controllable overrunning coupling.

Kasuya lacks:

- Wherein the transmission is characterized by the absence of a torque converter.

German'1610 (i.e., Fig. 6), on the other hand, teaches a multi-speed transmission comprising:

- An isolation damper (i.e., Fig. 1); and
- Wherein the transmission is characterized by the absence of a torque converter.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kasuya such that the torque converter is replaced by the isolation damper, in view of German'1610, in order to simplify the construction of the transmission as well as to improve the performance of the transmission.

12. Claims 6, 7, 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasuya et al. in view of German'1610 as applied to claims 1-5, 8, 10, 11, 13-17, 19 and 20 above, and further in view of U. S. Patent No. 7,052,430 to Stevenson et al.

Claims 6, 7, 9 and 18:

Kasuya in view of German '1610 discloses the limitations as set forth in paragraph 11 above. Regarding claims 6, 7, 9 and 18, Kasuya, however, does not explicitly disclose:

- Wherein said selectable braking one-way clutch is a hydraulically actuated by a piston and valve;
- Wherein said selectable braking one-way clutch is configured to freewheel in one rotational direction and to brake in an opposite rotational direction, and is selectively reversible to brake in said one rotational direction and freewheel in said opposite rotational direction, thereby facilitating use in said reverse and forward speeds; and
- Wherein said selectable braking one-way clutch is a bi-directional differential clutch.

Stevenson (i.e., Figs. 14; column 9, line 22 – column 10, line 21), on the other hand, teaches a power transmission comprising:

- A selectable reversible braking one-way clutch assembly (i.e., Fig. 14, element 810);
- Wherein said selectable braking one-way clutch is a hydraulically actuated by a piston (i.e., Fig. 14, element 824) and valve (i.e., Fig. 14);

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- Wherein said selectable braking one-way clutch is configured to freewheel in one rotational direction and to brake in an opposite rotational direction, and is selectively reversible to brake in said one rotational direction and freewheel in said opposite rotational direction, thereby facilitating use in said reverse and forward speeds (i.e., column 8, lines 29-65);
- Wherein said selectable braking one-way clutch is a bi-directional differential clutch (i.e., column 9, line 23);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Kasuya such that the selectable reversible braking one-way clutch (F-2) and the friction brake (B-3) are the selectable reversible braking one-way clutch assembly of Stevenson, in view of Stevenson, in order to further simplify the construction of the transmission as well as to improve the performance of the transmission.

Response to Arguments

13. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'D. Le', with a long horizontal flourish extending to the right.

David D. Le
Examiner
Art Unit 3681
08/11/06

ddl